

**Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382**

**AIR QUALITY PERMIT
Issued under 401 KAR 52:040**

Permittee Name: Illinois Tool Works, Inc. (Signode Division)
Mailing Address: 7080 Industrial Road, Unit 1, Florence,
Kentucky 41042

Source Name: ITW/SIGNODE
Mailing Address: 7080 Industrial Road, Unit 1
Florence, Kentucky 41042

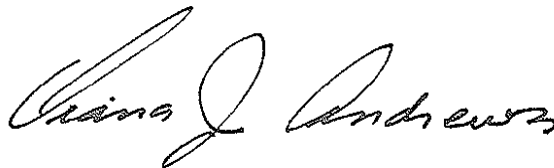
Source Location: 7080 Industrial Road

Permit ID: S-02-086, Revision 1
Agency Interest #: 246
Activity ID: APE20040001
Review Type: Minor Source, Operating
Source ID: 21-117-00171

Regional Office: Florence Regional Office
8020 Veterans Memorial Drive, Suite 110
Florence, KY 41042
(859) 525-4923

County: Kenton

Application
Complete Date: May 24, 2007
Issuance Date: October 10, 2003
Revision Date: June 5, 2007
Expiration Date: October 10, 2013



**John S. Lyons, Director
Division for Air Quality**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**GROUP 001 (--) - INDIRECT HEAT EXCHANGERS****001 (01) Indirect Heat Exchanger #1 (Strap Lines)****Description:**

Model: North American Boiler

Construction Date: 1978

Maximum Capacity: 5.2 million British thermal units per hour (mmBtu/hr)

Primary Fuel: Natural Gas (Only fuel used in this emission unit)

Controls: None

001 (04) Indirect Heat Exchanger #2 (SSP Area)**Description:**

Model: Superior Boiler

Construction Date: 1978

Maximum Capacity: 2.5 mmBtu/hr

Primary Fuel: Natural Gas (Only fuel used in this emission unit)

Controls: None

001 (05) Indirect Heat Exchanger #3 (PRA)**Description:**

Model: Cleaver Brooks Boiler

Construction Date: 1978

Maximum Capacity: 6.3 mmBtu/hr

Primary Fuel: Natural Gas (Only fuel used in this emission unit)

Controls: None

APPLICABLE REGULATIONS:

401 KAR 59:015 New Indirect Heat Exchangers. The provisions of this administrative regulation for particulate and sulfur dioxide emissions shall apply to each indirect heat exchanger having a heat input capacity of 250 mmBtu/hr or less and commenced on or after April 9, 1972.

1. Operating Limitations:

None

2. Emission Limitations:

- a. Pursuant to 401 KAR 59:015, Section 4(1)(c), maximum emissions of particulate matter (PM) from each unit shall not exceed 0.43 lb/mmBtu.
- b. Pursuant to 401 KAR 59:015, Section 4(2), emissions shall not exhibit greater than twenty (20) percent opacity.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. Pursuant to 401 KAR 59:015, Section 5(1)(c), sulfur dioxide (SO₂) emissions from each unit shall not exceed 1.89 lb/mmBtu actual heat input, based on a 24-hour average.

Compliance Demonstration Method:

While burning natural gas, the units listed above are considered to be in compliance with the specified particulate matter, sulfur dioxide and opacity emission limitations.

3. **Specific Testing Requirements:** None
4. **Specific Monitoring Requirements:** None
5. **Specific Recordkeeping Requirements:** None
6. **Specific Reporting Requirements:** None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**001 (06) Indirect Heat Exchanger #4 (PRA)****Description:**

Model: North American Boiler
Construction Date: 1968
Maximum Capacity: 8.4 mmBtu/hr
Primary Fuel: Natural Gas (Only fuel used in this emission unit)
Controls: None

001 (07) Indirect Heat Exchanger #5 (PRA)**Description:**

Model: North American Boiler
Construction Date: 1968
Maximum Capacity: 8.4 mmBtu/hr
Primary Fuel: Natural Gas (Only fuel used in this emission unit)
Controls: None

APPLICABLE REGULATIONS:

401 KAR 61:015 Existing Indirect Heat Exchangers. The provisions of this administrative regulation for particulate and sulfur dioxide emissions shall apply to each indirect heat exchanger having a heat input capacity of 250 mmBtu/hr or less and commenced before April 9, 1972.

1. Operating Limitations:

None

2. Emission Limitations:

- a. Pursuant to 401 KAR 61:015, Section 4(1)(c), maximum emissions of particulate matter (PM) from each unit shall not exceed 0.50 lb/mmBtu.
- b. Pursuant to 401 KAR 61:015, Section 4(2), emissions shall not exhibit greater than twenty (20) percent opacity.
- c. Pursuant to 401 KAR 61:015, Section 5(1)(c), sulfur dioxide (SO₂) emissions from each unit shall not exceed 5.62 lb/mmBtu actual heat input, based on a 24-hour average.

Compliance Demonstration Method:

While burning natural gas, the units listed above are considered to be in compliance with the specified particulate matter, sulfur dioxide and opacity emission limitations.

3. Specific Testing Requirements: None**4. Specific Monitoring Requirements: None****5. Specific Recordkeeping Requirements: None**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:** None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**GROUP 003 (--) - SOLID STATE PROCESSING MATERIAL HANDLING****003 (01)****Description:**

Solid State Processing (SSP) Material Handling
Construction Date: 1978
Maximum Processing Rate: 4.1 tons/hr
Controls: 31-Dust Collectors and 7-Cyclones
Control Efficiency: 85.5 %

GROUP 004 (--) - MATERIAL STORAGE (SILOS)**004 (01)****Description:**

Material Storage in twenty-two (22) silos
Construction Date: 1978
Maximum Processing Rate: 4.1 tons/hr
Controls: 31-Dust Collectors and 7-Cyclones
Control/Capture Efficiency: 85.5 %

GROUP 007 (--) - PRA MATERIAL HANDLING**007 (01)****Description:**

Plastic Recycling Alliance (PRA) Material Handling
Construction Date: 1978
Maximum Processing Rate: 4.0 tons/hr
Controls: 8-Dust Collectors and 40-Cyclones
Control/Capture Efficiency: 60%

APPLICABLE REGULATIONS:

401 KAR 59:010 New Process Operations. The provisions of this administrative regulation shall apply to each affected facility or source, associated with a process operation, which is not subject to another emission standard with respect to particulates in this chapter, commenced on or after July 2, 1975.

1. **Operating Limitations:** None

2. **Emission Limitations:**

- a. Pursuant to 401 KAR 59:010 Section 3(2), for emissions from a control device or stack no person shall cause, suffer, allow or permit the emission into the open air of particulate

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

matter (PM) from any affected facility which in excess of the quantity described below:

For process rates from 1000 to 60,000 lbs/hr: $E = 3.59P^{0.62}$

Where E = maximum allowable rate of PM emissions in lb/hr, and
P = process weight in tons/hr

For process rates below 1000 lbs/hr, the maximum allowable emission rate is 2.34 lbs of PM per hour.

- b. Pursuant to 401 KAR 59:010, Section 3(1), opacity of visible emissions from the solid state processing (SSP) operations shall not equal or exceed 20 percent.

Compliance Demonstration Method:

a. Mass Emission Standard:

Actual PM Emission Rate = [Amount of material processed by each area per month] x [Emission factor observed during last stack test, AP-42, FIRE or other emission factor approved by the Division, (in pounds PM/per ton)] x [1- Control efficiency/100] ÷ [Total hours of material processing during the month]

The control equipment shall be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times materials handling storage units are in operation.

b. Opacity Limit:

Compliance with the opacity limit is demonstrated by normal operation of the control equipment. Refer to Section C.3 for malfunction reporting.

3. Testing Requirements:

Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, the cabinet may require the owner or operator of an affected facility to sample emissions in accordance with methods approved by the cabinet or the U.S. EPA specified in Regulation 401 KAR 50:015.

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Total weight of material processed at each area each month.
- b. Total hours of material processed during the month.
- c. The permittee shall visually inspect each processing area once per week. The weekly inspection shall consist of a visual inspection of the physical condition of the external unit, and a qualitative visible observation of opacity from each stack when the unit is in operation, whereby the permittee shall maintain a weekly log of the following:
 - i. Whether any air emissions were visible from any individual stack;
 - ii. All emission points from which visible emissions were observed;
 - iii. Whether the visible emissions were normal from the stack.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. If visible emissions are observed during a survey, the permittee shall perform a Method 9 reading for emission points of concern. The opacity observed shall be recorded in the weekly log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

- a. Total weight of material processed at each area each month.
- b. Total hours of material processing during the month.
- c. The log for the qualitative visual inspection and any Method 9 results, in accordance with Condition 4.above.
- d. For the control equipment, a record of the following information:
 - i. A record of the weekly reading of the pressure loss through the control equipment.
 - ii. Findings of the weekly visual inspection and any corrective actions taken as a result.
- e. All maintenance activities performed at the control equipment.

6. Specific Reporting Requirements: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

GROUP 005 (--) – EXTRUSION

005 (01)

Description:

Two Extruders
Construction Date: 1978
Maximum Processing Rate: 4.1 tons/hr (total)
Controls: None

GROUP 006 (--) – REACTOR

006 (01)

Description:

Two Reactors
Construction Date: 1996
Maximum Processing Rate: 4.1 tons/hr
Controls: None

APPLICABLE REGULATIONS: None

1. **Operating Limitations:** None
2. **Emission Limitations:** None
3. **Specific Testing Requirements:** None
4. **Specific Monitoring Requirements:** None
5. **Specific Recordkeeping Requirements:**
 - a. The permittee shall keep calendar month records of the usage of VOC containing material.
 - b. At the end of each month volatile organic compound (VOC) emissions in tons shall be calculated using mass balance and the calculated results shall be recorded.
 - c. The annual VOC emission for each calendar year shall be calculated and kept available at the plant site.
6. **Specific Reporting Requirements:** None

SECTION C – GENERAL CONDITIONS

1. Administrative Requirements

- a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
- b. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15]
- c. Any condition or portion of this permit, which becomes suspended or is ruled invalid as a result of any legal or other action, shall not invalidate any other portion or condition of this permit. [Section 1a-11 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- d. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition. [Section 1a-4, 5, of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- e. This permit does not convey property rights or exclusive privileges. [Section 1a-8 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- f. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 52:040 Section 11(3)]
- g. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.
- h. All previously issued permits to this source at this location are hereby null and void.

SECTION C – GENERAL CONDITIONS (CONTINUED)**2. Recordkeeping Requirements**

- a. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f) and Section 1b-IV-2 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

3. Reporting Requirements

- a. (1) In accordance with the provisions of 401 KAR 50:055, Section 1, the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
- (2) The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition a.(1) above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Section 1b-V-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the permit [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

SECTION C – GENERAL CONDITIONS (CONTINUED)

- c. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation. The summary reports are due January 30th and July 30th of each year. All deviations from permit requirements shall be clearly identified in the reports. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

4. Inspections

In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency:

- a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation.
- b. To access and copy any records required by the permit.
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.
- d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

5. Emergencies/Enforcement Provisions

- a. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].
- b. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
 - (1) An emergency occurred and the permittee can identify the cause of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

SECTION C – GENERAL CONDITIONS (CONTINUED)

- (4) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
- c. Emergency provisions listed in General Condition 5.b are in addition to any emergency or upset provision contained in an applicable requirement [401 KAR 52:040, Section 22(1)].
- d. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:040, Section 22(2)].

6. Compliance

- a. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guidelines shall be followed:
 - (1) Pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.
 - (2) All the air pollution control systems shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers. A log shall be kept of all routine and non routine maintenance performed on each control device. Daily observations are required during daylight hours of all operations, control equipment and any visible emissions to determine whether conditions appear to be either normal or abnormal. If the operations, controls and/or emissions appear to be abnormal, the permittee must then comply with the requirements of Section C – General Conditions, 3.a.(2), of this permit.
 - (3) A log of the monthly raw material consumption and monthly production rates shall be kept available at the facility. Compliance with the emission limits may be demonstrated by computer program, spread sheets, calculations or performance tests as may be specified by the Division [401 KAR 50:055, Section 2].
- b. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
 - (1) Identification of the term or condition;
 - (2) Compliance status of each term or condition of the permit;
 - (3) Whether compliance was continuous or intermittent;

SECTION C – GENERAL CONDITIONS (CONTINUED)

- (4) The method used for determining the compliance status for the source, currently and over the reporting period, and
- (5) For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
- (6) The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Florence Regional Office
8020 Veterans Memorial Drive
Suite 110
Florence, KY 41042

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601-1403

- c. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
 - (1) Applicable requirements that are included and specifically identified in this permit; or
 - (2) Non-applicable requirements expressly identified in this permit [401 KAR 52:040, Section 11].

SECTION D- INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:040, Section 6. While these activities are designated as insignificant the permittee shall comply with the applicable regulation and any level of periodic monitoring specified below.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. Conair Low Bay Dryer O/L #1 Natural Gas Consumption Installed in 1978, 685 CFH	N/A
2. Conair High Bay Dryer O/L #1 CFH Natural Gas Consumption Installed in 1978, 685 CFH	N/A
3. Water heater / PRA Natural Gas Installed in 1978, 0.42 mmBtu/hr	N/A
4. Phase 1 Emergency Generator Natural Gas Fired Installed in 1978, 0.301 mmBtu/hr	N/A
5. Phase 2 Emergency Generator Natural Gas Fired Installed in 1978, 0.905 mmBtu/hr	N/A
6. Phase 3 Emergency Generator Natural Gas Fired Installed in 1978, 0.905 mmBtu/hr	N/A
7. Diesel Emergency Fire Pump Diesel Fired Installed in 1978, 1.35 mmBtu/hr Maximum Operating Hours: 500 hrs/yr	N/A
8. Strap Printing Operation Less than 5 gallons ink/day Installed in 1978	N/A
9. Caustic Cleaning Operation Less than 5 tons/year emissions Installed in 1978	N/A